

FRP MANHOLE

ITEM 38

WORK INCLUDED (Sec. 38.01) The contractor shall, under Item 38 furnish and install a packaged fiberglass reinforced plastic (FRP) flow metering manhole for use in measuring sanitary sewer flows in strict accordance with the requirements hereinafter specified.

The package flow metering manhole shall include but not be limited to prefabricated fiberglass manhole, cone top reducer, manhole casting and cover, grade rings, sewer pipe end adapters, ladder, integral flume, concrete base, bead board, anchor bolts, and any necessary appurtenances.

It is the intent of this contract that the final installation shall be complete in all respects and the Contractor shall be responsible for minor details and any necessary special construction not specifically included in the Drawings or Specifications.

This work shall include all required earth excavation, backfill, concrete work, dewatering, flow maintaining/diversion, and furnishing of all labor, equipment, and materials necessary to complete this item.

WORKMANSHIP (Sec. 38.02) All work shall be installed in strict accordance with the requirement, codes and ordinances of the owner and shall meet the inspection of same. Workmanship shall be first class in every respect and persons who are thoroughly experienced in this line of work shall carry out all work.

SUBMITTAL (Sec. 38.03) The Contractor shall submit detail drawings, drawn to scale, catalog data, and three (5) copies and cuts of all equipment he proposes to furnish.

FLOW METERING MANHOLE (Sec. 38.04) The Contractor shall furnish and install complete and in place flow metering manhole which shall consist of the following components:

Manhole shall meet the requirements of ANSI/ASTM D-3753 Standard Specifications for Fiber Reinforced Manholes. The packaged metering manhole shall be designed to withstand a 16,000 pound vertical dynamic wheel load (H-20), plus lateral forces from earth loading, ground water and frozen soil. The manhole opening shall be a 22-1/2 inch man-way for use with a cast iron cover, suitable for H-20 highway loading.

In general the top of an H-20 manhole should be manufactured one foot less than the distance from the pipe invert to the finish grade. Refer to the manufacturer for ordering height.

The manhole shall be a five feet (5') diameter corrosion

resistant fiberglass reinforced plastic (FRP manhole) as manufactured by Tracom, Inc. or approved equal with sealed fiberglass bottom, fiberglass access ladder, self contained integral flow measuring flume, two flexible boots with stainless steel clamps sized to connect the existing inlet and outlet pipes to the manhole pipe stubs - boots shall be Strong Back Fernco, RC Series Repair Coupling and hold-down brackets for anchoring the unit to the concrete slab base. An integral 2" NPT watertight coupling shall be installed at the depth and location shown on the plans.

The concrete slab base shall be seven feet (7') square by six inches (6") thick. A one-half inch (1/2") thick expanded polystyrene bead board shall be supplied for placement on the concrete slab under the manhole. Concrete Work shall be done in accordance with Item 4. All concrete shall be Class "A". Separate payment shall not be made. Prior to installation of the base slab the foundation shall be prepared with the installation of 8" of #4 limestone, compacted, leveled and ready for pouring the concrete base.

An integral flume, of the size and type as indicated on the plans, shall be provided with a head gauge calibrated in tenths of a foot; molded into the side of the flume, a two position stainless steel ultrasonic mounting bracket (Ultrasonic Meter) at the point of measurement as indicated on the plans.

A concrete bench shall be supplied after manhole installation. Refer to INSTALLATION section below.

P-525-Contract 1: Site M19 Tennyson Street FRP manhole shall be supplied with a 10" Palmer-Bowlus integral flume.

Site M18 Easement off Meadowwood FRP manhole shall be supplied with a 6" Parshall integral flume.

MANHOLE CASTING AND COVER (Sec. 38.05)

Manhole frames and covers are required and shall be Stark County Standards as shown on Detail Drawings 13 or 13A. All covers shall bear the words "Sanitary Sewer", or "San. Sewer" cast in raised letters. Finished dimensions shall not vary more than 1/8 inch. The rim and cover shall be machined to prevent rocking of the cover. For grade adjustment refer to Detail Drawing No. 12 and use precast adjustment rings.

INSTALLATION (Sec. 38.06) Flow metering manholes shall be installed where shown on the plans or as directed by the Engineer and in accordance with manufacturers recommendations, unless otherwise noted on the plans. The completed installation shall be completely accessible and shall be such that the possibility of damage from vehicles or injury to pedestrians will be

minimized.

The contractor shall OUPS all utilities and notify the Engineer of any utility conflicts not shown on the plans.

After manhole installation per the manufacturer's instructions, the bottom of the manhole around the flume shall be filled with concrete to form a bench that slopes back to the flume to provide a dry bench during normal operation. Care shall be taken during pouring of bench so that the flume is not damaged or distorted and concrete is kept out of pipe.

The contractor shall see that good construction and installation procedures are followed throughout the handling, storage, and placement process to ensure that the manhole is not damaged, and that acceptable operational results are achieved.

Excavation and Backfill shall be done in accordance with the plans and Item 1 of the specifications. Separate payment shall not be made.

MEASUREMENT AND PAYMENT (Sec 38.07) All materials, labor, and equipment to complete the work as called for on the drawings and as specified herein shall be included in the lump sum cost for the metering site under Contract 1A.